Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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COVID 19 infection presenting as motor peripheral neuropathy

On Mar 23, 2020, a 69-year-old man presented to the Ulster Hospital in Northern Ireland after waking up with bilateral lower limb weakness three days prior to admission. He had numbness on both legs that lasted for hours and resolved. He had no backache, and no arm, facial, or visual symptoms. He denied sphincteric or flu-like symptoms. He had a history of hypertension, type 2 diabetes mellitus, and mild chronic obstructive pulmonary disease. Two days before admission he could walk miles. He was swabbed in the emergency department (ED) for COVID 19 due to chronic unchanged cough and was admitted to a COVID 19 ward. His test was positive, so further investigations were deferred until he recovers from COVID 19 or deteriorates.

His had reduced power of four out of five of knee extension bilaterally, and normal power of all other muscle groups. There was no sensory level. His knee and ankle jerks were absent bilaterally and had gait ataxia.

Table 1 Initial and subsequent laboratory investigations.

	Mar 23, 2020	Mar 31,2020	Apr 02,2020	Apr 03,2020
Haemoglobin g/dl	131 (30–180)			
Lactate Dehydrogenase u/l	386 (135–225)			
Lymphocyte Count X109/l	0.64 (1–3)			
Platelet count X109/l	232 (150–400)			
Serum C reactive protein level mg/l	13.8 (0–5)		114 (0–5)	240 (0–5)
Ferritin μg/l	526 (30–400)		1698 (30–400)	
Serum Creatinine Kinase Level u/l	208 (40–320)			
Urea &Electrolytes	Normal		Normal	
AST u/l	99 (0–40)		41 (0–40)	
GGT u/l	89 (8–61)		103 (8–61)	
Serum Troponin T ng/l	8 (0–14)		11.9 (0–14)	
Serum Vitamin B12 ng/l	277 (197–771)			
Serum Folate ug/l	8.5 (3.9–26.8)			
Serum Adjusted Calcium mmol/l	2.37 (2.2–2.6)			
Serum Magnesium mmol/l	0.78 (0.7–1)			
Serum TSH mu/l	1.90 (0.27–4.20)			
Blood Glucose mmol/l	17.9			
COVID 19 E gene	Positive	positive		Negative
COVID 19 E gene CT value	33.51			
COVID 19 S gene	positive	Positive		Negative
COVID 19 S gene CT value	32.56			
Flu A	Not detected			
Flu B	Not detected			

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His admission and subsequent laboratory results are shown on Table 1. His initial chest X-ray (CXR) was normal.

On day four of admission (day seven of symptom onset) he had a temperature of 38 °C and confusion. He had a repeat CXR on Mar 30 showing peripheral right lower lobe consolidation, consistent with COVID 19 infection. After his temperature settled, he had a repeat COVID 19 nasopharyngeal swab on Mar 31, which was still positive, but was negative on Apr 3, so he received a magnetic resonance imaging (MRI) of the head and whole spine revealing no evidence of inflammation or demyelination, with evidence of multiple old infarcts within the left frontal, parietal and occipital lobes.

The patient made a slow, but spontaneous recovery of his muscle power and gait without a specific treatment and was discharged to his own home on day 18 of admission (day 21 of onset).

This case is different from one reported on The Lancet Neurology of Guillain Barre Syndrome (GBS)[1] in the presence of microbiological evidence of COVID 19 infection on admission, with no flu-like symptoms until day seven of symptom onset. He had distal lower limb weakness and hyporeflexia without back pain or sensory level, suggestive of peripheral neuropathy. However, he had no preceding flu like illness and his symptoms were worst at onset and progressively got, making it less likely to be GBS. Uncontrolled diabetes and alcohol could account for absent reflexes, but not for weakness as it was of an acute onset. There was no evidence of spinal infarction or acute stroke on MRI. The diagnosis is likely a motor peripheral neuropathy, though we could not further characterise it as the patient did not have a lumbar puncture or nerve conduction studies which were unsafe to do in view of his COVID 19 status.

GBS has been reported as a presenting feature of Zika virus infection three days before the onset of flu-like symptoms.[2] To our best of knowledge, we present the first reported case of peripheral neuropathy manifesting before the onset of the typical flu-like symptoms of the novel COVID 19 infection.

Declaration of Competing Interest

The authors declare no financial or nonfinancial conflicts of interest.

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